CLAIMS

1. A method of transcoding a data message, comprising a plurality of data fields and an authentication code, to produce a transcoded message for transmission to a destination device, the data message being received from a source device wherein said data fields have been coded in accordance with a first coding system, whereby respective data field codes are generated for said data fields and a message code is derived from said data field codes, and wherein said message code has been coded in accordance with a second coding system to generate said authentication code, the method comprising:

determining for each data field of the received data message whether to maintain, modify or omit that field;

for a field to be maintained, maintaining that field in said transcoded message;

for a field to be omitted, coding the field in accordance with said first coding system to generate an omitted field code dependent upon the data field code for that field, and replacing that field by said omitted field code in the transcoded message;

for a field to be modified, coding that field in accordance with said first coding system to generate a modified field code dependent upon the data field code for that field, and replacing that field by a modified field, comprising modified data and said modified field code, in the transcoded message; and

including said authentication code in the transcoded message.

2. A method as claimed in claim 1 wherein, for at least some instances of a field to be omitted, the omitted field code comprises the data field code for that field.

3. A method as claimed in claim 2 wherein said message code has been derived in said source device by coding the data field codes for predetermined groups of fields to generate respective group codes, and wherein, for a field to be omitted:

if all fields in the corresponding group are to be omitted, then the omitted field code comprises the group code for that group, and the group of fields is replaced by said group code in the transcoded message;

if less than all fields in the corresponding group are to be omitted, then the omitted field code comprises the data field code for that field.

4. A method as claimed in claim 1 wherein, for a field to be modified, the modified field code is generated by generating the data field code for that field and coding said modified data in accordance with said first coding system to generate a modified data code, said modified field code being representative of the difference between that data field code and said modified data code.

5. A method as claimed in claim 1 further comprising inserting markers in the transcoded message, each marker indicating whether a respective portion of the transcoded message corresponds to a maintained, modified or omitted field of the received data message.

6. A method as claimed in claim 1 wherein said first coding system is a hashing algorithm whereby said data field codes are hash values.

7. A method as claimed in claim 3 wherein:

said first coding system is a hashing algorithm whereby said data field codes are hash values;

said message code is the root hash value of a hash tree calculated from said data field codes; and

said group codes are the hash values of respective parent nodes of said hash tree.

8. A method of processing a data message, comprising a plurality of data fields and an authentication code, received from a source device wherein said data fields have been coded in accordance with a first coding system, whereby respective data field codes are generated for said data fields and a message code is derived from said data field codes, and wherein said message code has been coded in accordance with a second coding system to generate said authentication code, the method comprising:

producing a transcoded message from the received data message by: determining for each data field of the received data message whether to maintain, modify or omit that field; for a field to be maintained, maintaining that field in said transcoded message; for a field to be omitted, coding the

field in accordance with said first coding system to generate an omitted field code dependent upon the data field code for that field, and replacing that field by said omitted field code in the transcoded message; for a field to be modified, coding that field in accordance with said first coding system to generate a modified field code dependent upon the data field code for that field, and replacing that field by a modified field, comprising modified data and said modified field code, in the transcoded message; and including said authentication code in the transcoded message;

transmitting the transcoded message to a destination device; and

in said destination device: deriving a received message code from the transcoded message using maintained fields, modified fields and omitted field codes in said message in accordance with said first coding system; comparing the received message code with the message code encoded in said authentication code in accordance with said second coding system; and displaying a user message dependent upon the result of the message code comparison.

9. A method as claimed in claim 8 wherein, at least if the received message code is identical to the message code encoded in said authentication code, said user message comprises the maintained data fields and said modified data from the transcoded message.

10. A method as claimed in claim 9 wherein said user message comprises transcode indicators indicative of the location in the displayed message of fields omitted or modified from the data message as sent by the source device.

11. A method as claimed in claim 10 further comprising:

storing data fields received from said source device which fields are omitted or modified in producing the transcoded message;

transmitting a stored data field to the destination device in response to a transcoded field request from the destination device; and

at the destination device, displaying the stored field received pursuant to said request.

12. A transcoder for transcoding a data message, comprising a plurality of data fields and an authentication code, to produce a transcoded message for transmission to a destination device, the

data message being received from a source device wherein said data fields have been coded in accordance with a first coding system, whereby respective data field codes are generated for said data fields and a message code is derived from said data field codes, and wherein said message code has been coded in accordance with a second coding system to generate said authentication code, the transcoder comprising:

a memory for storing the received data message;

transcoder logic configured to determine for each data field of the received data message whether to maintain, modify or omit that field, and to produce the transcoded message from the received data message; and

means for transmitting the transcoded message to the destination device;

wherein the transcoder logic is configured to produce the transcoded message from the received data message by:

for a field to be maintained, maintaining that field in said transcoded message;

for a field to be omitted, coding the field in accordance with said first coding system to generate an omitted field code dependent upon the data field code for that field, and replacing that field by said omitted field code in the transcoded message;

for a field to be modified, coding that field in accordance with said first coding system to generate a modified field code dependent upon the data field code for that field, and replacing that field by a modified field, comprising modified data and said modified field code, in the transcoded message; and

including said authentication code in the transcoded message.

13. A transcoder as claimed in claim 12 wherein, for at least some instances of a field to be omitted, the omitted field code comprises the data field code for that field.

14. A transcoder as claimed in claim 13 for transcoding a received data message for which said message code has been derived in said source device by coding the data field codes for predetermined groups of fields to generate respective group codes, wherein the transcoder logic is configured such that, for a field to be omitted:

if all fields in the corresponding group are to be omitted, then the omitted field code generated by the transcoder logic comprises the group code for that group, and the transcoder logic replaces that group of fields by said group code in the transcoded message;

if less than all fields in the corresponding group are to be omitted, then the omitted field code generated by the transcoder logic comprises the data field code for that field.

15. A transcoder as claimed in claim 12 wherein, for a field to be modified, the transcoder logic is configured to generate the modified field code by generating the data field code for that field and coding said modified data in accordance with said first coding system to generate a modified data code, said modified field code being representative of the difference between that data field code and said modified data code.

16. A transcoder as claimed in claim 12 wherein the transcoder logic is configured to insert markers in the transcoded message, each marker indicating whether a respective portion of the transcoded message corresponds to a maintained, modified or omitted field of the received data message.

17. A transcoder as claimed in claim 12 wherein said first coding system is a hashing algorithm whereby said data field codes are hash values.

18. A transcoder as claimed in claim 14 wherein:

said first coding system is a hashing algorithm whereby said data field codes are hash values;

said message code is the root hash value of a hash tree calculated from said data field codes; and

said group codes are the hash values of respective parent nodes of said hash tree.

19. A transcoder as claimed in claim 12 wherein the transcoder logic is further configured to output a stored field of the received data message to the transmitter means for transmission to the destination device in response to receipt of a transcoded field request from the destination device.

20. A destination device for receiving a transcoded message from a transcoder as claimed in claim 12, the destination device comprising a memory for storing a received transcoded message, a display, and control logic configured to:

derive a received message code from the transcoded message using maintained fields, modified fields and omitted field codes in said message in accordance with said first coding system;

compare the received message code with the message code encoded in said authentication code in accordance with said second coding system; and

to supply a user message, dependent upon the result of the message code comparison, to the display for display to a user.

21. A device as claimed in claim 20 wherein, at least if the received message code is identical to the message code encoded in said authentication code, said user message comprises the maintained data fields and said modified data from the transcoded message.

22. A device as claimed in claim 21 wherein said user message includes transcode indicators indicative of the location in the displayed message of fields omitted or modified from the data message as sent by the source device.

23. A destination device for receiving a transcoded message from a transcoder as claimed in claim 19, the destination device comprising a memory for storing a received transcoded message, a display, user input means, means for transmitting a said transcoded field request to the transcoder, and control logic configured to:

derive a received message code from the transcoded message using maintained fields, modified fields and omitted field codes in said message in accordance with said first coding system;

compare the received message code with the message code encoded in said authentication code in accordance with said second coding system;

supply a user message, dependent upon the result of the message code comparison, to the display for display to a user;

and to generate said transcoded field request in response to a user input via said input means.

24. A data communication system comprising:

a transcoder for transcoding a data message, comprising a plurality of data fields and an authentication code, to produce a transcoded message for transmission to a destination device, the data message being received from a source device wherein said data fields have been coded in accordance with a first coding system, whereby respective data field codes are generated for said data fields and a message code is derived from said data field codes, and wherein said message code has been coded in accordance with a second coding system to generate said authentication code; and

at least one destination device for receiving said transcoded message from the transcoder;

wherein the transcoder comprises:

a memory for storing the received data message; transcoder logic configured to determine for each data field of the received data message whether to maintain, modify or omit that field, and to produce the transcoded message from the received data message; and means for transmitting the transcoded message to said destination device;

said transcoder logic being configured to produce the transcoded message from the received data message by: for a field to be maintained, maintaining that field in said transcoded message; for a field to be omitted, coding the field in accordance with said first coding system to generate an omitted field code dependent upon the data field code for that field, and replacing that field by said omitted field code in the transcoded message; for a field to be modified, coding that field in accordance with said first coding system to generate a modified field code dependent upon the data field code for that field, and replacing that field by a modified field, comprising modified data and said modified field code, in the transcoded message; and including said authentication code in the transcoded message;

and wherein said destination device comprises a memory for storing a received transcoded message, a display, and control logic configured to derive a received message code from the transcoded message using maintained fields, modified fields and omitted field codes in said message in accordance with said first coding system, to compare the received message code with the message code encoded in said authentication code in accordance with said second coding system, and to supply a user message, dependent upon the result of the message code comparison, to said display for display to a user.

25. A data communication system as claimed in claim 24 including a source device for generating a data message, the source device comprising:

message processing logic configured to divide data to be included in a data message into a plurality of data fields, to code said data fields in accordance with said first coding system whereby respective data field codes are generated for said data fields and a message code is derived from said data field codes, and to code said message code in accordance with said second coding system to generate an authentication code for the message; and

means for transmitting a data message, comprising said plurality of data fields and said authentication code, to said transcoder.

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